patients who have gone into the typhoid condition. The nerve-cells and the bloodvessels are chiefly affected, the neuroglia and nerve-fibres being intact. In the early stages cellular œdema and vacuolization are common. Disappearance of the chromatin, swelling of the protoplasm, or granular degeneration also occurs. The smaller bloodvessels are distended; the perivascular spaces often filled with blood and pigment. Hemorrhages into the brain-substance were not observed, nor was there emigration of leucocytes. There is sometimes granular degeneration of the protoplasm of the neuroglia-cells, though their nuclei are not affected. The changes affect especially the frontal and paracentral convolutions; least of all the occipital convolutions and the cerebellum. The changes, in short, are degenerative and necrotic, rather than inflammatory.

MALIGNANT ENDOCARDITIS FOLLOWING GONORRHŒA.

DAUBER and BORST (*Deutsches Archiv für klin. Med.*, Bd. 56, p. 257) make an interesting addition to our knowledge of malignant endocarditis following gonorrhœa by the report of a case observed by themselves, and a brief critical reference to the literature of the subject. In their own case, a man of twenty years had acute gonorrhœa, inflammation of the right spermatic cord, paraurethral abscess, bubo, tendo-vaginitis in the hand, and myositis. The heart on admission showed no lesions, but gradually symptoms developed pointing to aortic insufficiency. Septic nephritis and hypostatic pneumonia closed the scene. In the beginning the urethral pus contained gonococci in pure culture (as shown by staining).

Later, these became less numerous and finally disappeared, while other bacteria of various kinds became numerous. It is important to note that symptoms of endocarditis began on the eighteenth day after the appearance of the urethral discharge, at a time when the gonococci were still present. Examination of the blood at various times showed no micro-organisms, except once, no doubt as the result of contamination. The autopsy, made with the necessary precautions, revealed extensive ulceration and vegetations on the aortic valves, with various changes in the heart and other organs not necessary to mention. In the vegetations were diplococci, some of which had the typical form of gonococci and were within the cells. They decolorized after Gram's method, were sensitive to the action of alcohol, and had, in short, all the morphological and tinctorial peculiarities of gonococci. They differed, however, from the latter in the appearance of cultures on human blood-serum. Unfortunately the urethral diplococci were not cultivated. The authors deny that the gonococci caused the endocarditis in this particular case, though they admit the possibility of a gonococcal endocarditis. In all cases cultures are necessary in order to identify the species.

BLACKWATER FEVER.

PLEHN (*Berliner klin. Wochenschrift,* 1895, Nos. 25, 26, 27) gives an elaborate report on the so-called "blackwater fever" of the west coast of Africa, the "fièvre bilieuse hématurique," or, in general terms, pernicious fever of that country. This appears to be spreading in the Cameroons, though varying in severity in different seasons. It caused twenty-six per cent. of all deaths among white settlers since 1890, and made up about one-eleventh of all cases of fever in the district. Negroes are less susceptible than the whites, though not immune; Chinese seem especially predisposed. Individual disposition varies. One attack increases the tendency to future ones. Exciting causes, such as emotional disturbances, care, and anxiety, may often be observed, some interesting examples being cited. The period of incubation is difficult to determine, as the attack usually comes on as a recidive of milder malarial disease. Prodromal symptoms, such as depression, loss of appetite, pain in the back and limbs, may occur and last for several hours to several days. At such times a slight rise of temperature may be demonstrated. In some cases the hemoglobinuric attack comes on in an intermittent or remittent fever of simple type. In contrast to the uncomplicated malarial fevers of the Cameroons, in which an initial chill is usually absent, the blackwater fever is usually ushered in by a severe and protracted rigor. This can occur before or during the rise of temperature or at its acme, and is likely to recur at irregular periods, like the chill of septic fever. The patient is usually restless, anxious, and alarmed, the intellect often slightly clouded. There is rarely stupor in the beginning. The most painful symptoms are nausea and intractable vomiting, with a feeling of oppression in the chest and severe dyspnœa. Often there is formication or numbness of the fingers and toes. In the beginning, or soon after, icterus appears and rapidly increases in intensity. In only one out of thirty-nine cases was hemorrhage recognized during life. The temperature-curve resembles that of sepsis. In severe cases the temperature may be at 104° for many hours, then falling rapidly. Continued fever is rare in whites, but is observed in the complicating pneumonia common among negroes affected with the disease. Temperatures above 106° are rare. Hemoglobinuria sometimes occurs with mild elevations of the temperature. The pulse is frequent (120–140), hard and full; later small, quick, and intermittent. Physical examination reveals a mild bronchitis in some cases; the heart-sounds are often impure. The abdomen is sensitive; the spleen is slightly enlarged in about half the cases. The blood-corpuscles and hemoglobin vary much, the proportions being obscured often by concentration of the blood. Large numbers of macrocytes are found, and microcytes and poikilocytes occur. The urine soon becomes dark red or even black, with a greenish tint. The foam is yellow, the specific gravity high (1030–1032), or in mild cases normal, the reaction acid unless irritation of the bladder causes slight alkalinity. The quantity of urine is diminished, sometimes there is almost complete suppression. There is often irritation of the bladder and urethra. The urine throws down a copious sediment, containing mucus, bladder and kidney epithelium, hyaline and epithelial casts, débris, and granular pigment-masses. Bile coloring-matter and acids cannot be found; albumin is present in large amounts, up to one per cent. The precipitated albumin is colored by hemoglobin, but no blood-corpuscles are found. In other words, there is a "nephritis due to the pathological secretions," and the further course of the disease is much affected by this complication. In mild cases the evidences of nephritis disappear suddenly, in more severe cases the course is protracted and the dangers are the same as those of nephritis from other causes. In a certain proportion of cases death is due to heart-failure, with thrombi; in others to anuria. In some cases there are mild icterus and albuminuria, though hemoglobin cannot be recognized in the urine. In some cases there is paroxysmal hemoglobinuria. In the blood small unpigmented parasites are found. They are difficult to see, show distinct but rather slow motion and growth. They are stained best in fresh preparations. Gradually an oval body develops, reaching a size equal to one-fourth the diameter of a red blood-corpuscle. This afterward breaks up into five or six small oval bodies, staining best at one pole. These produce a "rosette" body or soon become free and rapidly move away in the blood. Crescents are found, but not constantly. They resemble those found in other localities morphologically, but differ from them in the peculiarity of taking the eosin-stain. Pigment is rarely found free, more frequently within the leucocytes, never in the red corpuscles. Whether the differences in the characteristics of the parasites as compared with those of other places are due to the peculiarities of the soil or indicate a new species, whether related to or distinct from similar forms found in Italy and Java, the author does not undertake to say. The parasite is distinguished clinically by its resistance to quinine, and on account of this and the irritating effects of the drug on the kidneys Plehn gave up the use of quinine in the treatment of his cases. At the same time the tendency to spontaneous recovery in blackwater fever is marked. Chloral and morphine, with sinapisms to the epigastrium, oxygen-inhalations for the dyspnœa, and ether-injections for collapse are the remedies relied on. The nephritis and its results are treated in the usual way. After the disappearance of the acute symptoms quinine is given in gramme doses to prevent recidives. [It is to be regretted that the author has not told more about the parasites. From his description the resemblance to the "unpigmented parasite" described by Marchiafava and Celli is almost complete. The results of post-mortem examinations, and the condition of the parasites in the internal organisms, should have been mentioned, especially so since the author says the parasites form no pigment, but dissolve the hemoglobin, and yet describes the occurrence of pigment in the leucocytes and in the liver and spleen. That the organisms are more resistent to quinine than the larger forms makes the resemblance to those first described in Italy greater, but we do not learn from this paper that Plehn used quinine in an efficient manner, so that his statement as to its inefficiency carries little weight. Regarding the pathology of blackwater fever, the author speaks of it often as a hematuria, but expressly says in other places that it is a hemoglobinuria, and that red corpuscles are never found in the urine; yet it must be a remarkable nephritis in which there is albumin in the urine to the amount of one per cent. with epithelial casts, but no blood-corpuscles. Can it be that the urine was not examined fresh? No doubt the study of pathology on the West Coast is difficult, and the author deserves great credit for the observations here reported. The field is a rich one and competent investigators are greatly needed.]

PHYSIOLOGICAL FUNCTION IN METASTATIC CANCER OF THE THYROID.

VON EISELSBERG (*Archiv für klin. Chirurgie*, 1894, Bd. 48) reports the case of a woman, of thirty-eight years, who developed symptoms of cachexia thyreopriva after the removal of an adenoma of the thyroid. These symp-